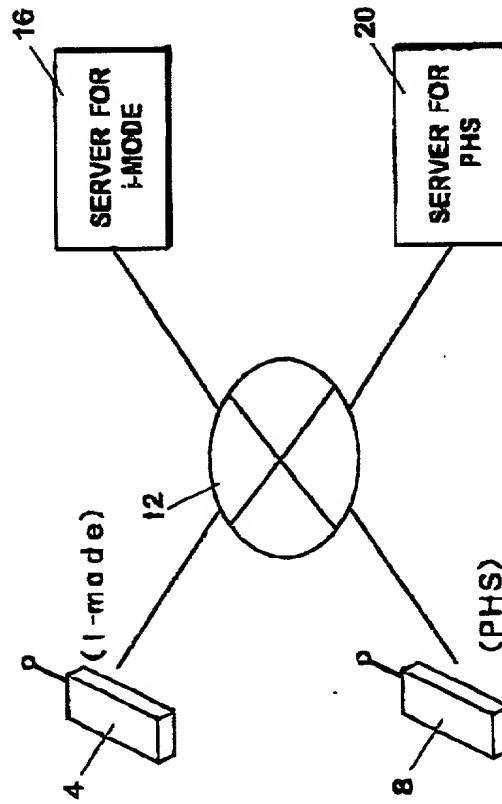


120US

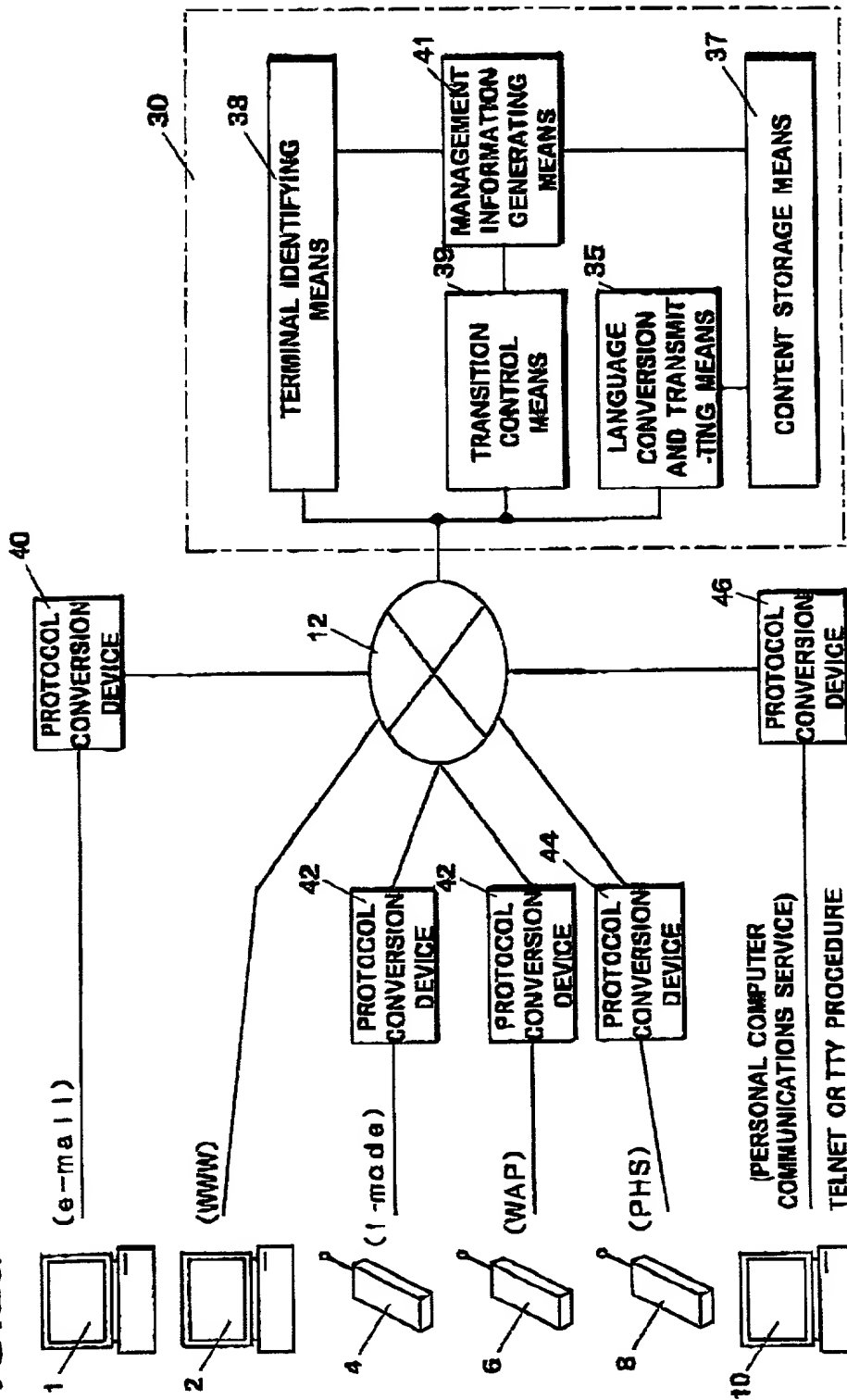
FIG.1

PRIOR ART



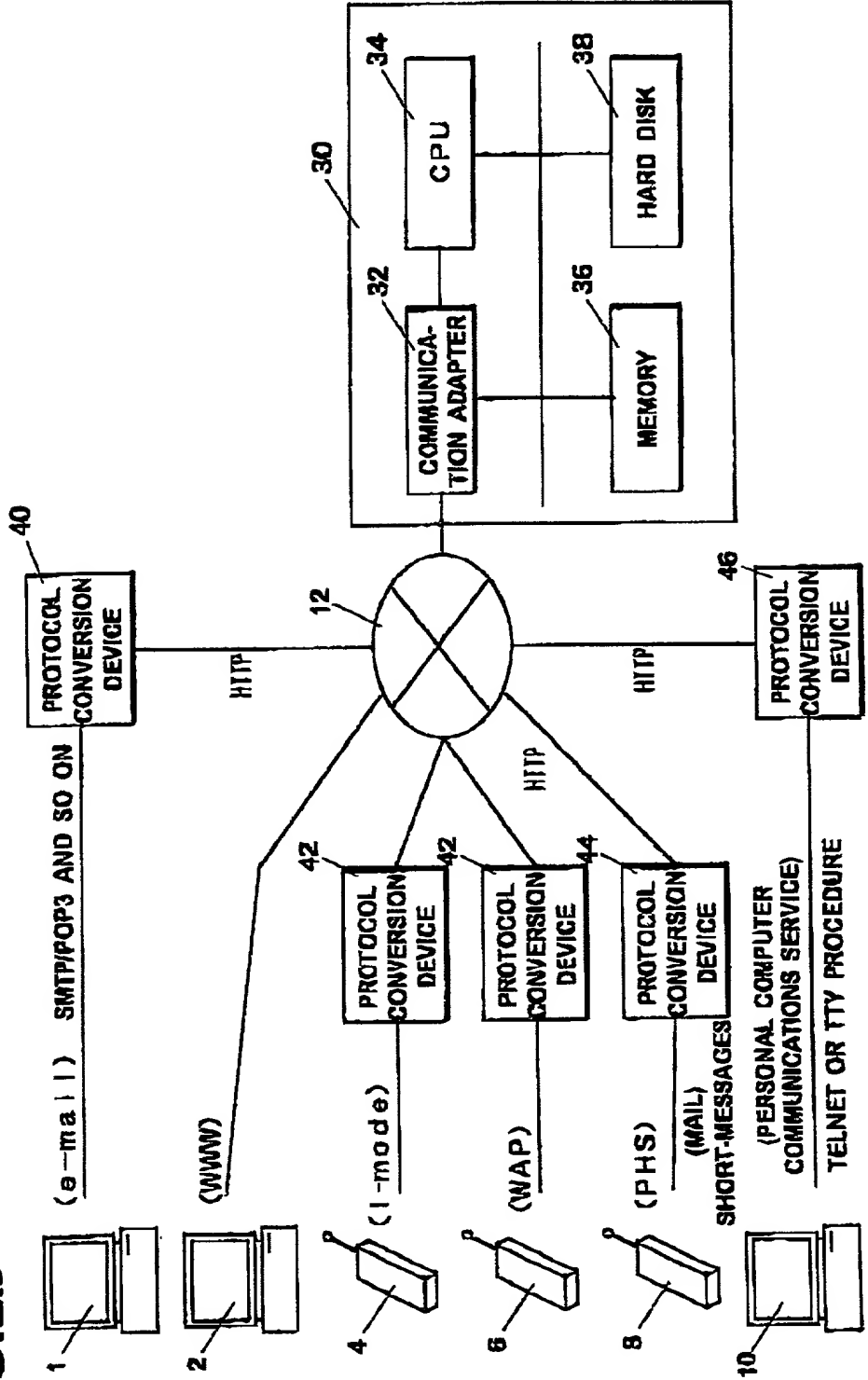
120US

FIG.2a

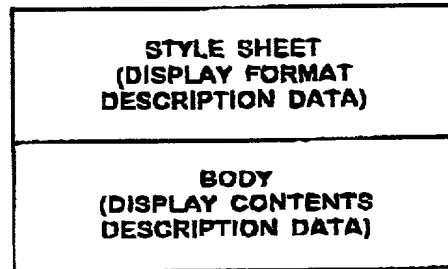


120US

FIG.2b



120US

**FIG.3****DATA STRUCTURE OF DATA  
WRITTEN IN BASIC LANGUAGE**

120US

FIG.4

TAG1
TAG2
TEXT1
TAG3
TAG4
TEXT2

120US

FIG.5

<TAG NAME ATTRIBUTE NAME=ATTRIBUTE VALUE=ATTRIBUTE VALUE...>

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120US

**FIG.6****BODY****MENU.KSP**

```
<KSP KEY=K1 NAME="KSP SAMPLE">  
<P KEY=R1> SELECT THE MENU</P>  
<IMG KEY=R2 SRC=ICOM.JPG>  
<A KEY=R3 HREF=MAIL.KSP>E-MAIL</A>  
<A KEY=R4 HREF=BBS. KSP>BBS</A>  
</KSP>
```

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FIG.7

## STYLE SHEET

```

<HTML>
<HEAD><TITLE>$K1.NAME$</TITLE></HEAD>
<BODY BACKGROUND=b g. g | f>
$R1$<BR>
<IMG SRC=$R2.SRC$>
<A HREF=$R3.HREF$>$R3</A>
<A HREF=$R4.HREF$>$R4</A>
</BODY>
</HTML>

```

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

120US



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FIG.8

FIG. 8 is a block diagram of a menu structure.

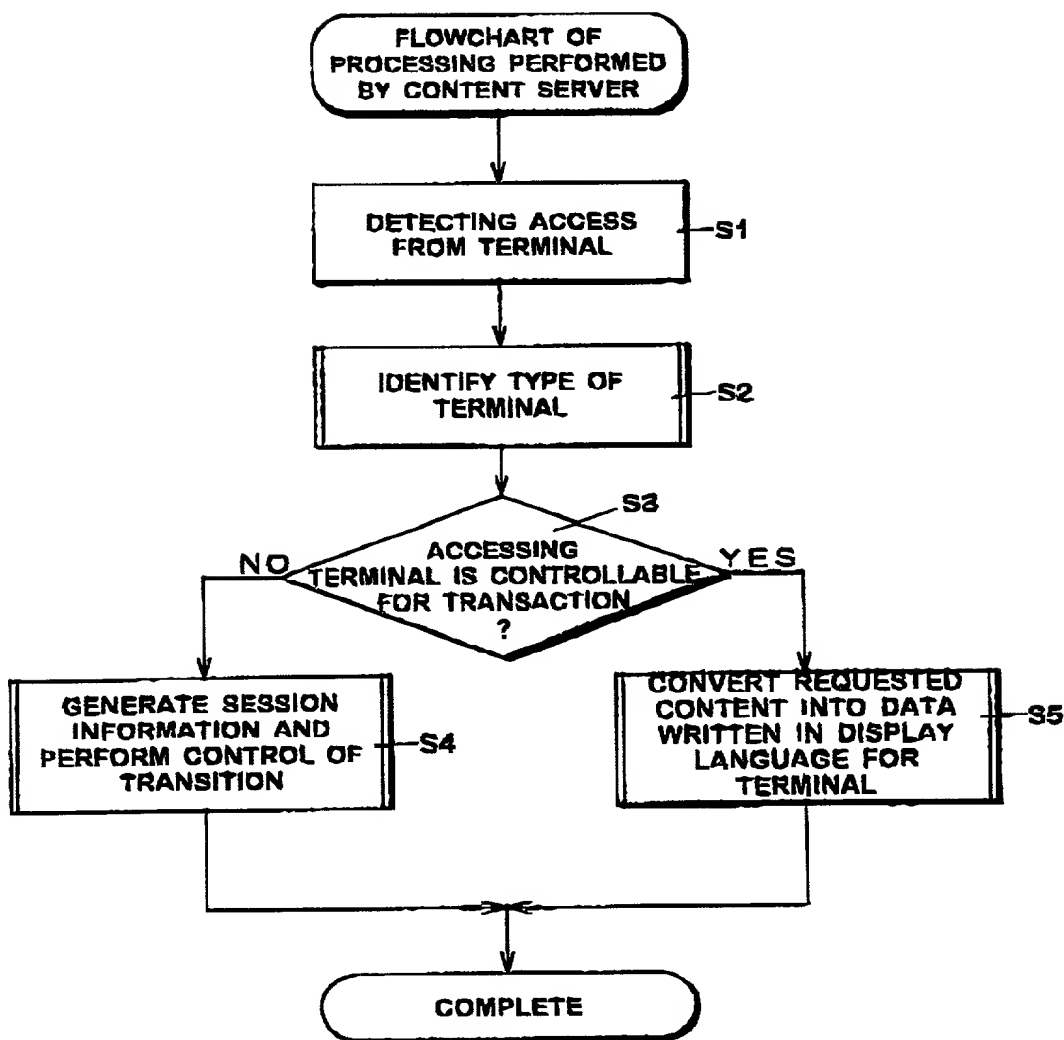
120US

# BODY

| MENU.KSP  |
|---|
| <pre> &lt;KSP KEY=K1 NAME="E-MAIL"&gt; &lt;P KEY=R1&gt; SELECT THE MENU &lt;/P&gt; &lt;A KEY=R2 HREF=RMA I L.KSP&gt; IN-BASKET MAIL LIST &lt;/A&gt; &lt;A KEY=R3 HREF=SMA I L.KSP&gt; OUT-BASKET MAIL LIST&lt;/A&gt; &lt;A KEY=R4 HREF=NEWMA I L. KSP&gt;NEWLY TRANSMITTED MAIL &lt;/A&gt; &lt;A KEY=R5 HREF=MENU. KSP&gt;RETURN TO INDEX MENU &lt;/A&gt; &lt;/KSP&gt; </pre> |

120US

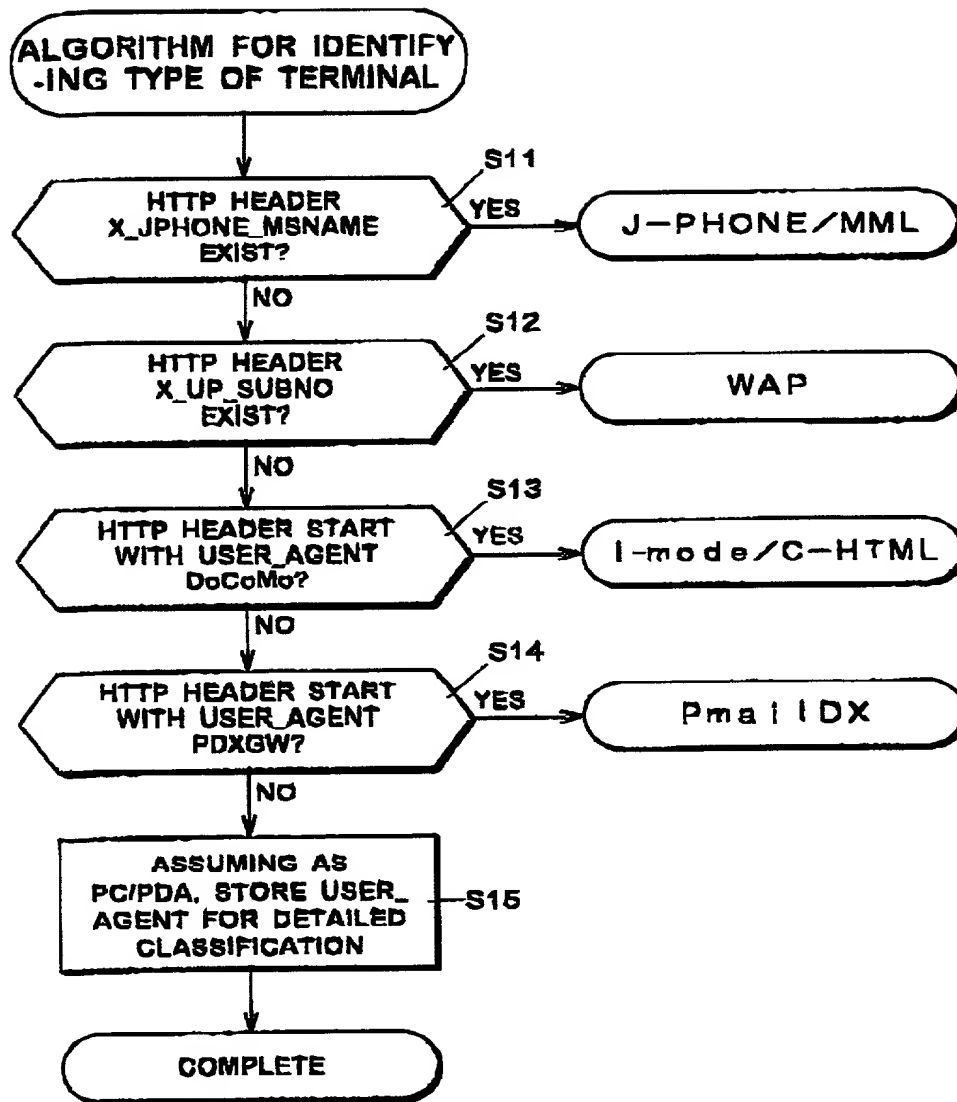
FIG.9



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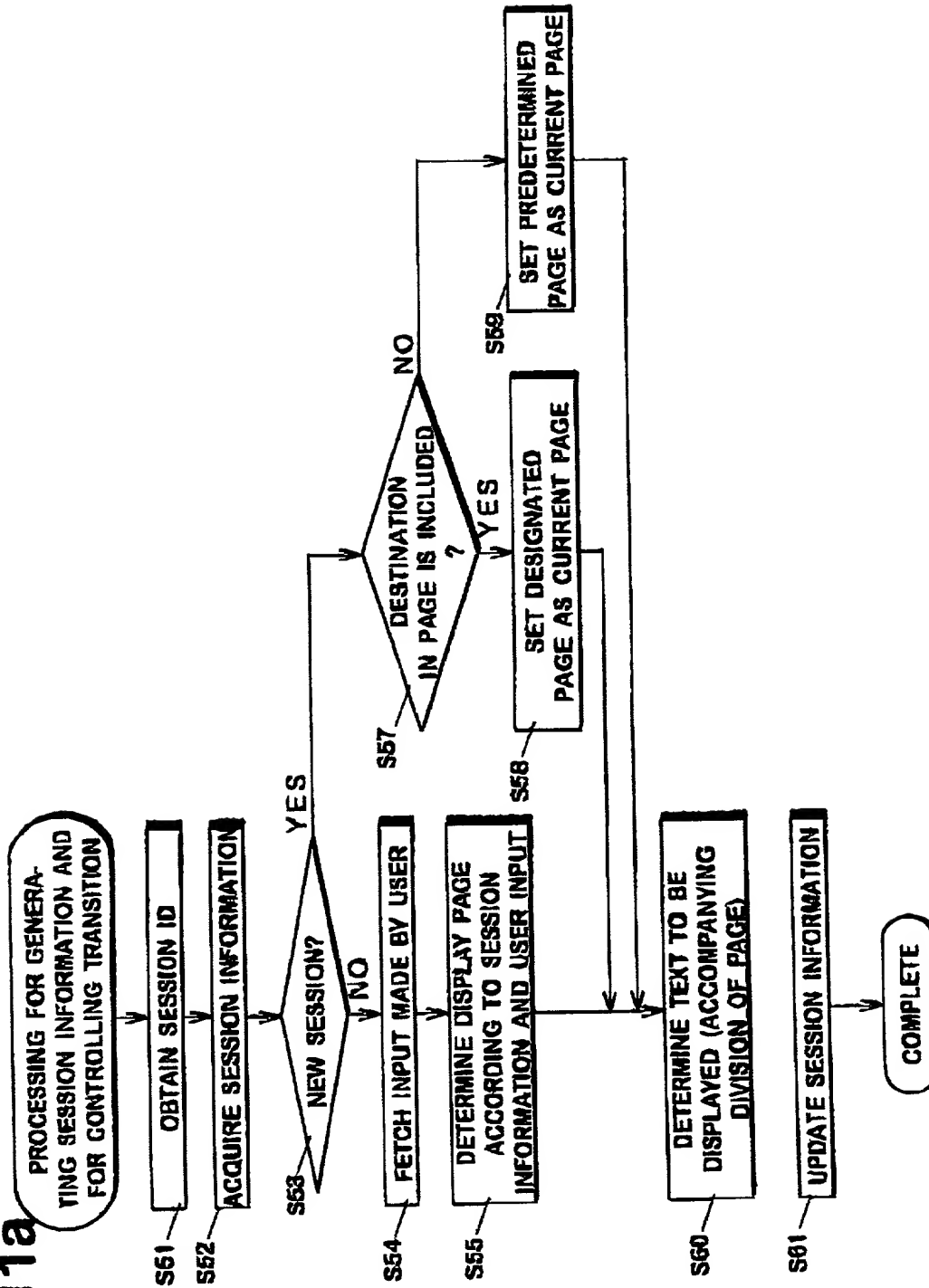
120US

FIG.10

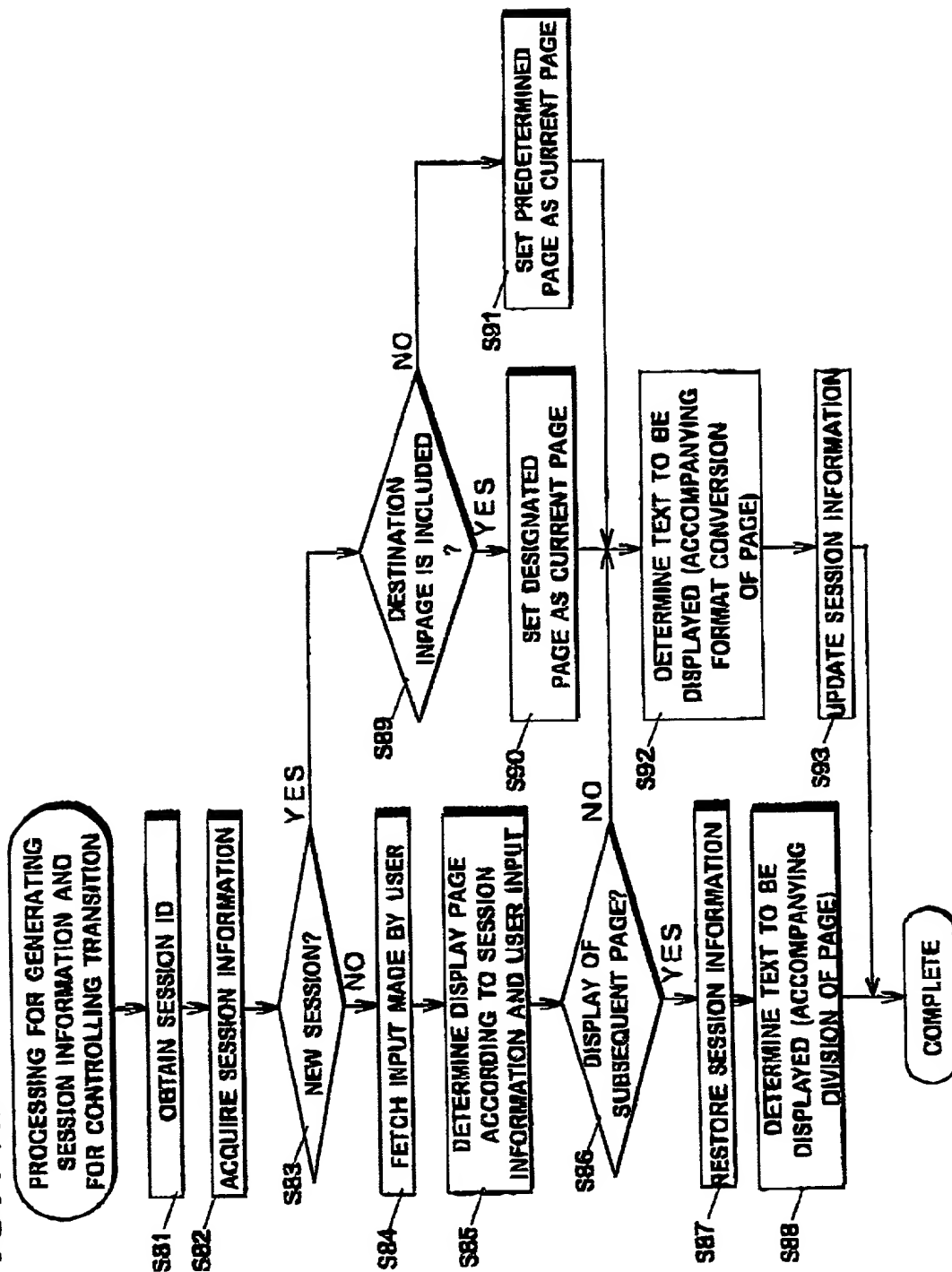


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FIG.11a



**FIG. 11b**



120US

FIG.11C

|                                 |   |
|---------------------------------|---|
| SESSION ID                      | QE215434  |
| TIME FOR TERMINATING SESSION    | 2000/01/15 17:35:21   |
| TYPE OF INPUT VALUES            | 2   |
| SERIES OF CHARACTERS IN INPUT 1 | "1"   |
| STATUS OF INPUT 1               | NORMAL  |
| RESPONSE TO INPUT 1             | DISPLAY SUBSEQUENT TEXT   |
| SERIES OF CHARACTERS IN INPUT 2 | "*"   |
| STATUS OF INPUT 2               | ERROR   |
| RESPONSE TO INPUT 2             | TRANSIT TO DINING.KSP   |
| SUBSEQUENT TEXT                 | <p>This algorithm easily reach an impasse .<br/> Assume the case in which all the<br/> five philosophers simultaneously hold the forks<br/> at their right hand side. Although, they all<br/> waiting for the forks at their left hand side<br/> available, no forks at their left hand side will be<br/> available forever because none of them release<br/> the forks at their right hand. As a consequence,<br/> all of them are getting hungry a bit at a time<br/> with holding forks at their right hands. This<br/> is a typical example of so called "dead lock".</p> <p>In a less drastic case, there is a possibility<br/> that some philosophers become starving. For<br/> example, a philosopher, who sits the middle of<br/> two evil fellows who alternately take meals on<br/> purpose, starves because both the forks at right<br/> and left hand sides are occupied by these two<br/> fellows. This is a phenomenon so called<br/> "lock out".</p> <p>The problem named " a philosophers<br/> having meals " have often been discussed as a<br/> material of parallel programming because this can<br/> treat issues on collective occupation of common<br/> resources and critical section while the problem<br/> seems simple to resolve. This could be a famous<br/> problem in view of consecutive algorithm<br/> equivalent to a game so called "Eight queens".</p> |

120US

FIG.11D

|                                  |  |
|----------------------------------|--|
|                                  | <p>(1) DESCRIPTION OF CRITICAL SECTION<br/>(2) DESCRIPTION OF CONCURRENT<br/>(3) TABLE OF CONTENTS</p> |
| TYPE OF INPUT VALUES             | 4  |
| SERIES OF CHARACTORS IN INPUT 1  | "1"  |
| STATUS OF INPUT 1                | NORMAL   |
| RESPONSE TO INPUT 1              | TRANSIT TO CSECTION.KSP  |
| SERIES OF CAHARACTORS IN INPUT 2 | "2"  |
| STATUS OF INPUT 2                | NORMAL   |
| RESPONSE TO INPUT 2              | TRANSIT TO CONCURRENT.KSP  |
| SERIES OF CAHARACTORS IN INPUT 3 | "3"  |
| STATUS OF INPUT 3                | NORMAL   |
| RESPONSE TO INPUT 3              | TRANSIT TO INDEX.KSP   |
| SERIES OF CAHARACTORS IN INPUT 4 | "*"  |
| STATUS OF INPUT 4                | ERROR  |
| RESPONSE TO INPUT 4              | TRANSIT TO DINING.KSP  |

120US

## FIG.12

| TYPE OF TERMINAL                | HOW TO IDENTIFY SESSION IDS                  |
|---------------------------------|--|
| Pma11DX                         | SESSION ID ASSIGNED AS URL BY GATEWAY SERVER |
| MAIL RESPONSE                   | E-MAIL ADDRESS                               |
| PERSONAL COMPUTER COMMUNICATION | NUMBER OF COMMUNICATION PORT                 |
| TELNET                          | IP ADDRESS OF THE TERMINAL                   |



120US

**FIG.13**

**SELECT THE MENU**

- ① E-MAIL
- ② BBS

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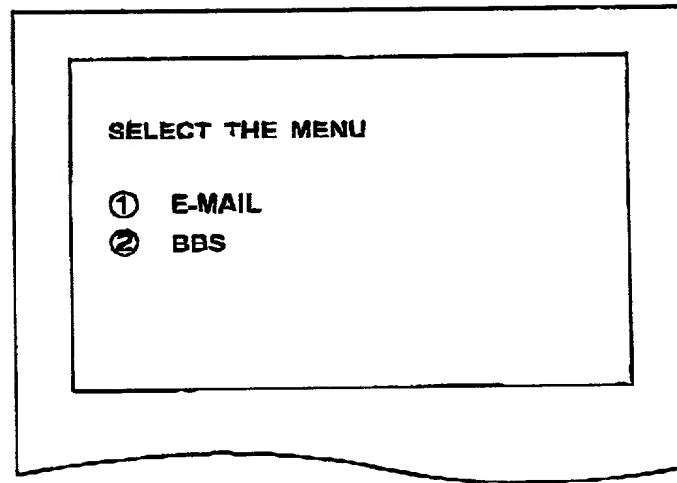
120US

**FIG.14****SESSION INFORMATION**

|                                |                     |
|--------------------------------|---------------------|
| SESSION ID                     | AK238452            |
| TIME FOR TERMINATING SESSION   | 2000/01/15 17:35:21 |
| TYPE OF INPUT VALUES           | 3                   |
| SERIES OF CHARACTERS IN INPUT1 | "1"                 |
| STATUS OF INPUT1               | NORMAL              |
| RESPONSE TO INPUT1             | TRANSIT TO MAIL.KSP |
| SERIES OF CHARACTERS IN INPUT2 | "2"                 |
| STATUS OF INPUT2               | NORMAL              |
| RESPONSE TO INPUT2             | TRANSIT TO BBS.KSP  |
| SERIES OF CHARACTERS IN INPUT3 | "*"                 |
| STATUS OF INPUT3               | ERROR               |
| RESPONSE TO INPUT3             | TRANSIT TO MENU.KSP |

120US

FIG.15



120US

**FIG.16****SELECT MAIL-MENU**

- ① IN-BASKET MAIL LIST
- ② OUT-BASKET MAIL LIST
- ③ NEWLY TRANSMITTED MAIL
- ④ RETURN TO INDEX MENU

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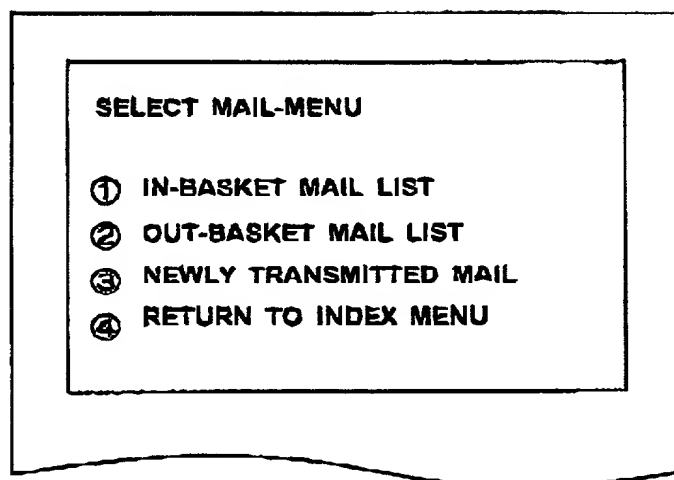
## FIG.17

|                                |                        |
|--------------------------------|------------------------|
| SESSION ID                     | AKZ38452               |
| TIME FOR TERMINATING SESSION   | 2000/01/15 17:36:05    |
| TYPE OF INPUT VALUES           | 5                      |
| SERIES OF CHARACTERS IN INPUT1 | "1"                    |
| STATUS OF INPUT1               | NORMAL                 |
| RESPONSE TO INPUT1             | TRANSIT TO RMAIL.KSP   |
| SERIES OF CHARACTERS IN INPUT2 | "2"                    |
| STATUS OF INPUT2               | NORMAL                 |
| RESPONSE TO INPUT2             | TRANSIT TO SMAIL.KSP   |
| SERIES OF CHARACTERS IN INPUT3 | "3"                    |
| STATUS OF INPUT3               | NORMAL                 |
| RESPONSE TO INPUT3             | TRANSIT TO NEWMAIL.KSP |
| SERIES OF CHARACTERS IN INPUT4 | "4"                    |
| STATUS OF INPUT4               | NORMAL                 |
| RESPONSE TO INPUT4             | TRANSIT TO MENU.KSP    |
| SERIES OF CHARACTERS IN INPUT5 | "*"                    |
| STATUS OF INPUT5               | ERROR                  |
| RESPONSE TO INPUT5             | TRANSIT TO MENU.KSP    |

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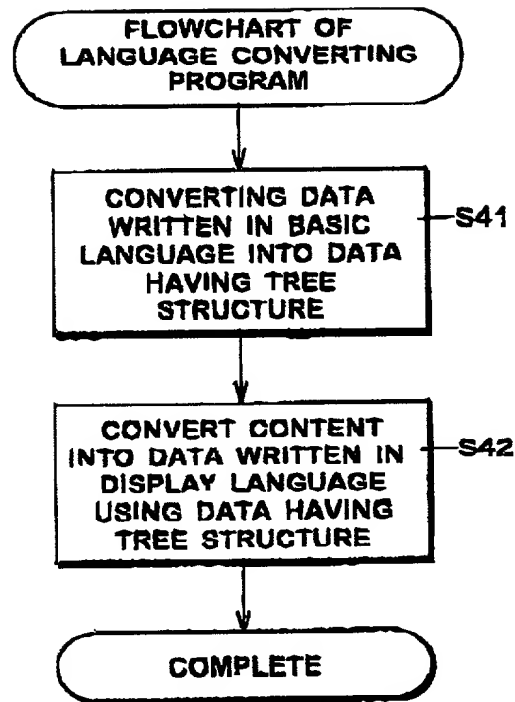
12 OUS

FIG.18



120US

FIG.19



120US

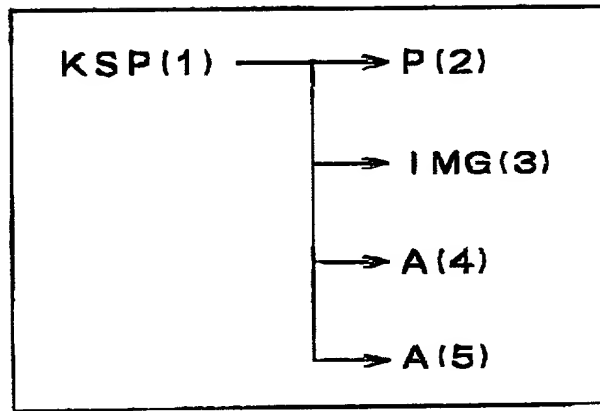
FIG.20

|  |                   |
|--|-------------------|
| TAG NUMBER   |                   |
| TAG TYPE   |                   |
| NUMBER OF ATTRIBUTES                               |                   |
| ATTRIBUTE NAME-1                                   | ATTRIBUTE VALUE-1 |
| ATTRIBUTE NAME-2                                   | ATTRIBUTE VALUE-2 |
| ATTRIBUTE NAME-3                                   | ATTRIBUTE VALUE-3 |
| ...  | ...               |
| TEXT (ONLY A-TAG, P-TAG)                           |                   |
| SUBSEQUENT TAG NUMBER                              |                   |
| TAG NUMBER FOR CHILD TAG(ONLY KSP,FORM,SELECT TAG) |                   |



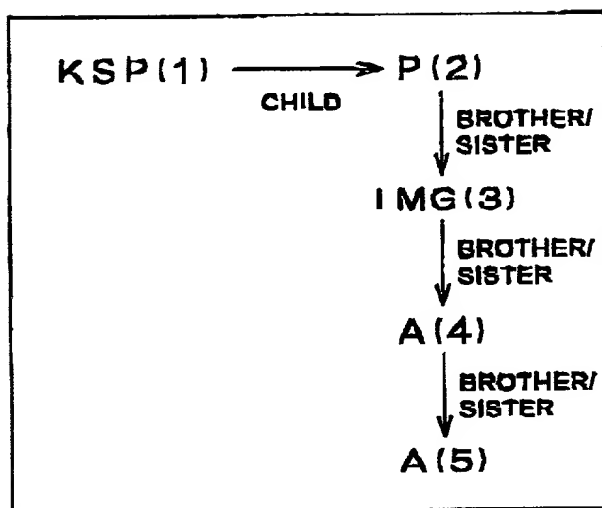
120US

FIG.21



120US

FIG.22



120US

**FIG. 23**

|                                 |                          |
|---------------------------------|--------------------------|
| <b>TAG NUMBER</b>               | 1                        |
| <b>TAG TYPE</b>                 | KSP                      |
| <b>NUMBER OF ATTRIBUTES</b>     | 2                        |
| <b>ATTRIBUTE NAME-1</b>         | KEY                      |
| <b>ATTRIBUTE VALUE-1</b>        | K1                       |
| <b>ATTRIBUTE NAME-2</b>         | NAME                     |
| <b>ATTRIBUTE VALUE-2</b>        | KSPSAMPLE                |
| <b>TEXT</b>                     | (EMPTY)                  |
| <b>SUBSEQUENT TAG NUMBER</b>    | 0 (NO CORRESPONDING TAG) |
| <b>TAG NUMBER FOR CHILD TAG</b> | 2                        |

|                                 |                                |
|---------------------------------|--------------------------------|
| <b>TAG NUMBER</b>               | <b>2</b>                       |
| <b>TAG TYPE</b>                 | <b>P</b>                       |
| <b>NUMBER OF ATTRIBUTES</b>     | <b>1</b>                       |
| <b>ATTRIBUTE NAME-1</b>         | <b>KEY</b>                     |
| <b>ATTRIBUTE VALUE-1</b>        | <b>R1</b>                      |
| <b>TEXT</b>                     | <b>SELECT THE MENU</b>         |
| <b>SUBSEQUENT TAG NUMBER</b>    | <b>3</b>                       |
| <b>TAG NUMBER FOR CHILD TAG</b> | <b>0(NO CORRESPONDING TAG)</b> |

|                          |                          |
|--------------------------|--------------------------|
| TAG NUMBER               | 3                        |
| TAG TYPE                 | IMG                      |
| NUMBER OF ATTRIBUTES     | 2                        |
| ATTRIBUTE NAME-1         | KEY                      |
| ATTRIBUTE VALUE-1        | R2                       |
| ATTRIBUTE NAME-2         | SRC                      |
| ATTRIBUTE VALUE-2        | ICON. JPG                |
| TEXT                     | (NONE)                   |
| SUBSEQUENT TAG NUMBER    | 4                        |
| TAG NUMBER FOR CHILD TAG | 0 (NO CORRESPONDING TAG) |

|                                 |                                 |
|---------------------------------|---------------------------------|
| <b>TAG NUMBER</b>               | <b>4</b>                        |
| <b>TAG TYPE</b>                 | <b>A</b>                        |
| <b>NUMBER OF ATTRIBUTES</b>     | <b>2</b>                        |
| <b>ATTRIBUTE NAME-1</b>         | <b>KEY</b>                      |
| <b>ATTRIBUTE VALUE-1</b>        | <b>R3</b>                       |
| <b>ATTRIBUTE NAME-2</b>         | <b>HREF</b>                     |
| <b>ATTRIBUTE VALUE-2</b>        | <b>MAIL. KSP</b>                |
| <b>TEXT</b>                     | <b>MAIL</b>                     |
| <b>SUBSEQUENT TAG NUMBER</b>    | <b>5</b>                        |
| <b>TAG NUMBER FOR CHILD TAG</b> | <b>O( NO CORRESPONDING TAG)</b> |

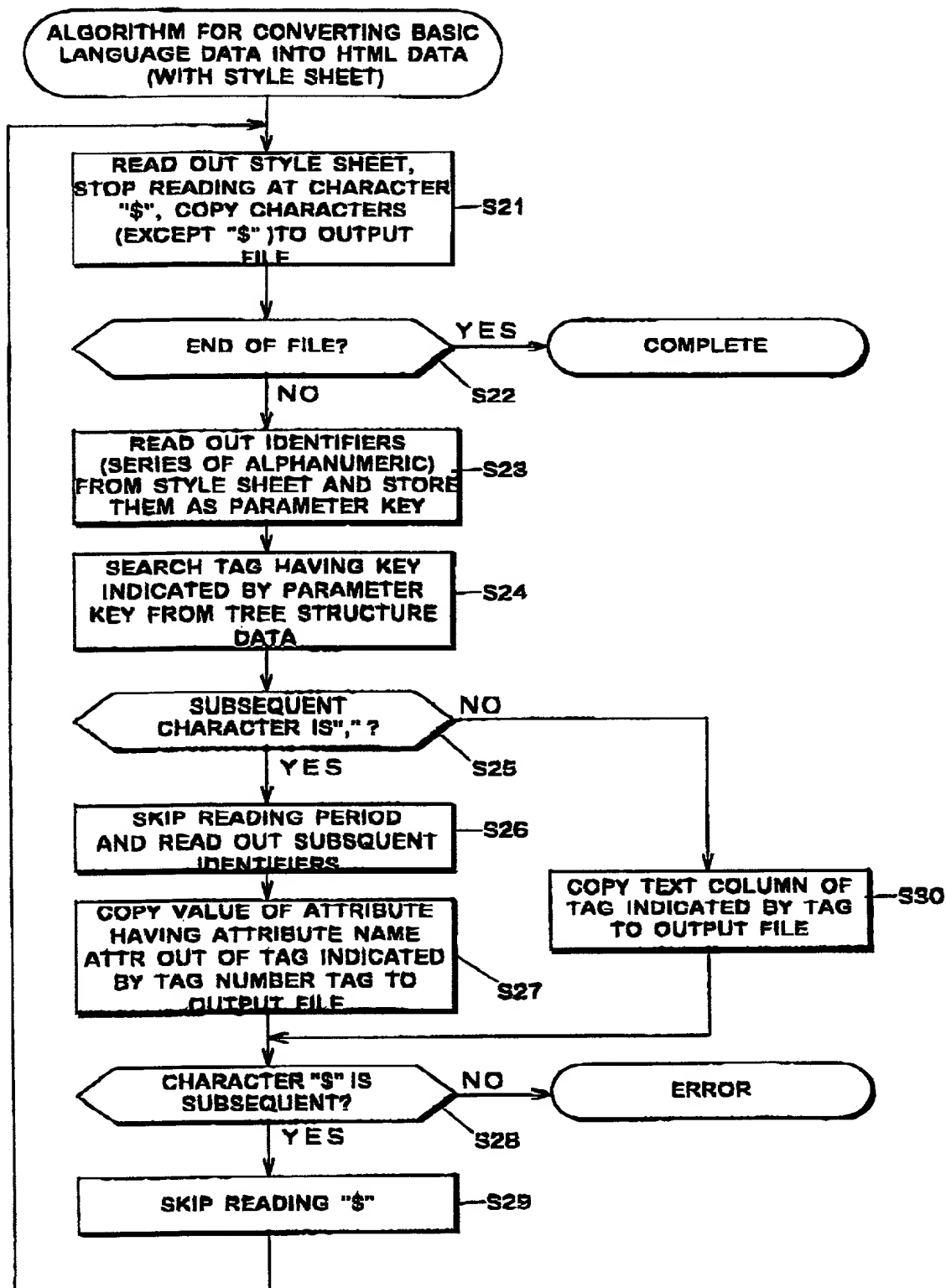
120US

## FIG.24

|                          |                         |
|--------------------------|-------------------------|
| TAG NUMBER               | 5                       |
| TAG TYPE                 | A                       |
| NUMBER OF ATTRIBUTES     | 2                       |
| ATTRIBUTE NAME-1         | KEY                     |
| ATTRIBUTE VALUE-1        | R4                      |
| ATTRIBUTE NAME-2         | HREF                    |
| ATTRIBUTE VALUE-2        | BBS. KSP                |
| TEXT                     | BBS                     |
| SUBSEQUENT TAG NUMBER    | 0(NO CORRESPONDING TAG) |
| TAG NUMBER FOR CHILD TAG | 0(NO CORRESPONDING TAG) |

120US

FIG.25



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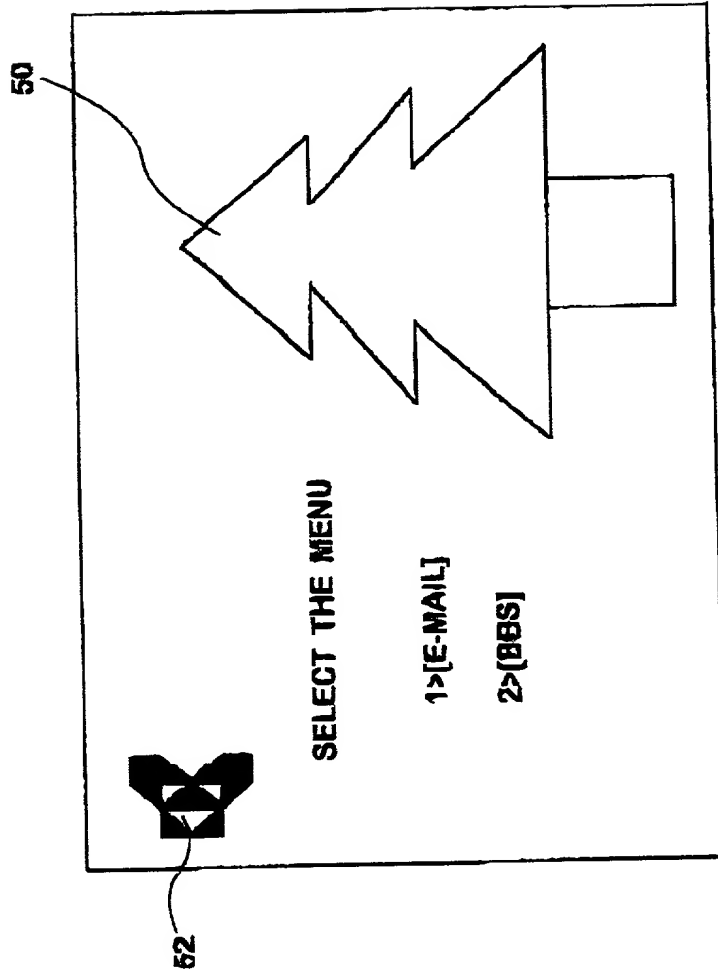
FIG.26

```
<HTML>
<HEAD><TITLE>KSP SAMPLE</TITLE></HEAD>
<BODY BACKGROUND=b.g.gif>
  SELECT THE MENU<BR>
  <IMG SRC=1COM.JPG>
  <A HREF=MAIL.KSP>MAIL</A>
  <A HREF=BBS.KSP>BBS</A>
</BODY>
</HTML>
```

120US

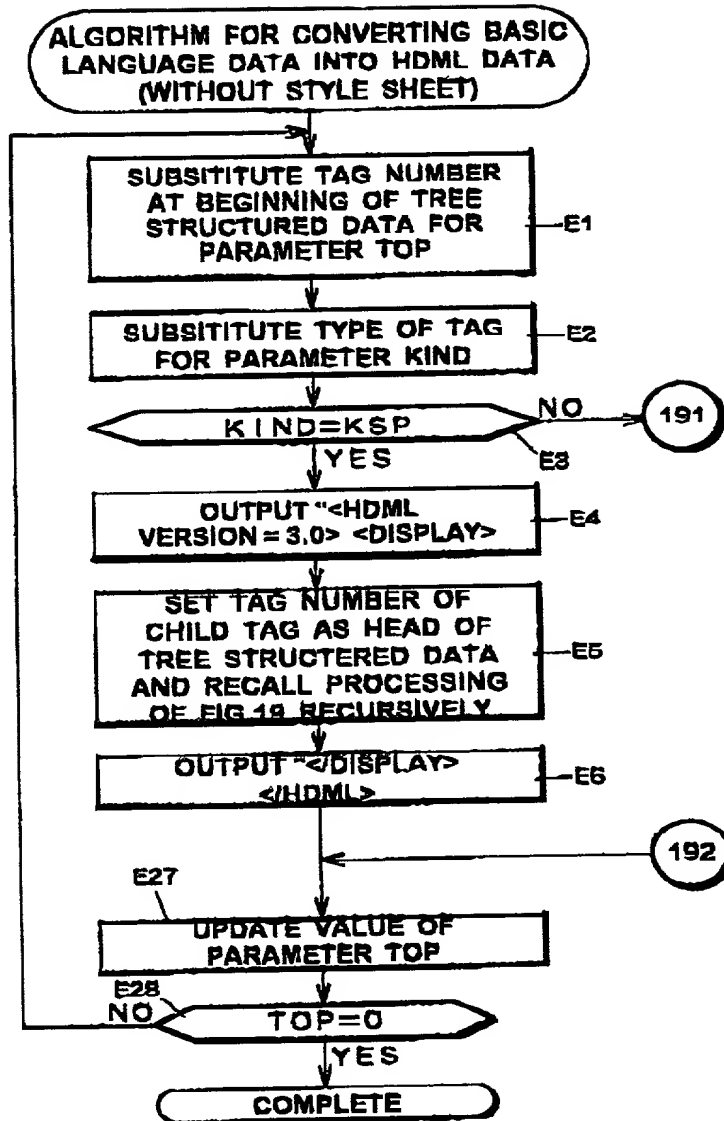
120US

FIG.27



120US

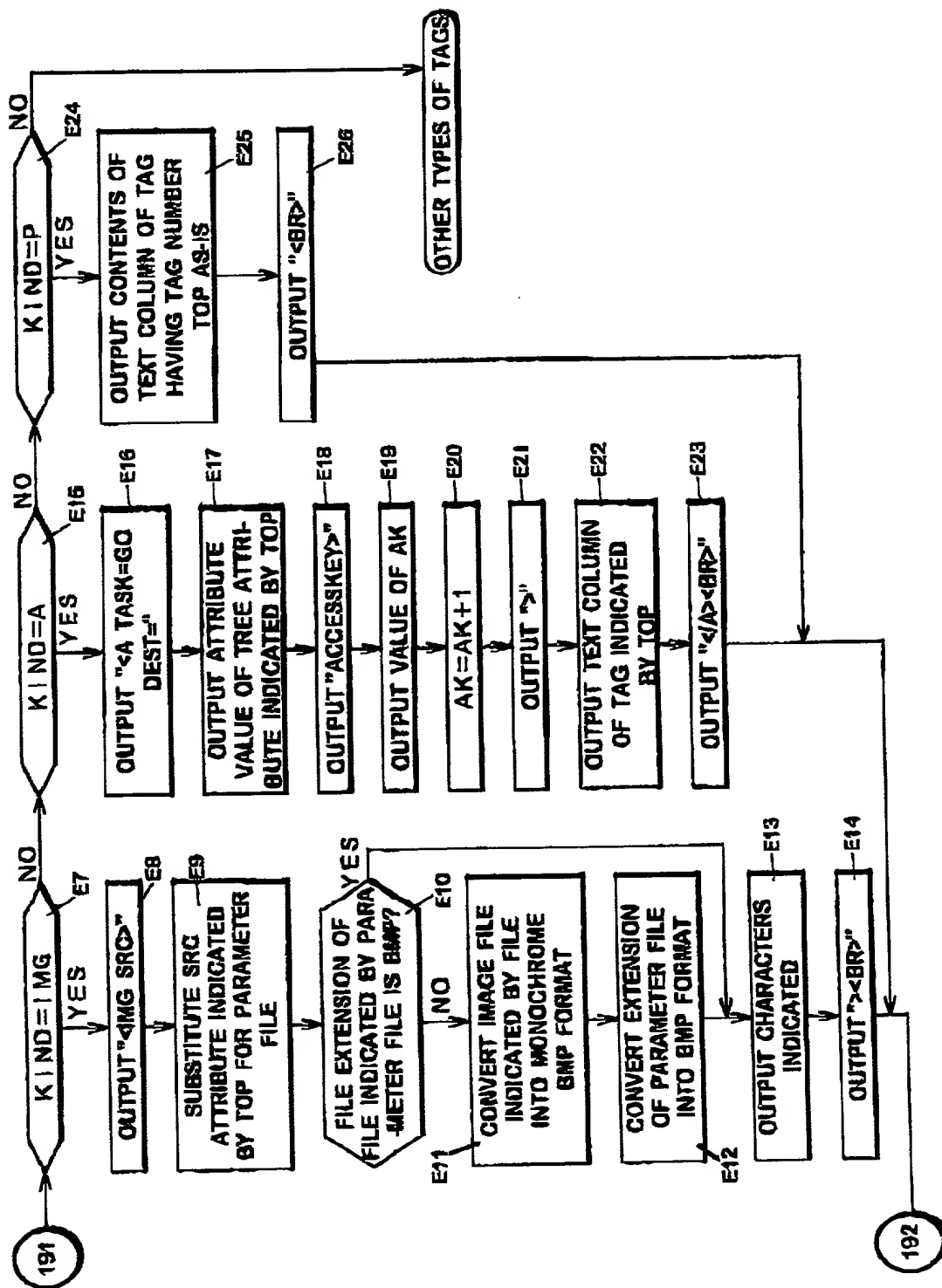
FIG.28A





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FIG. 28B



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120US

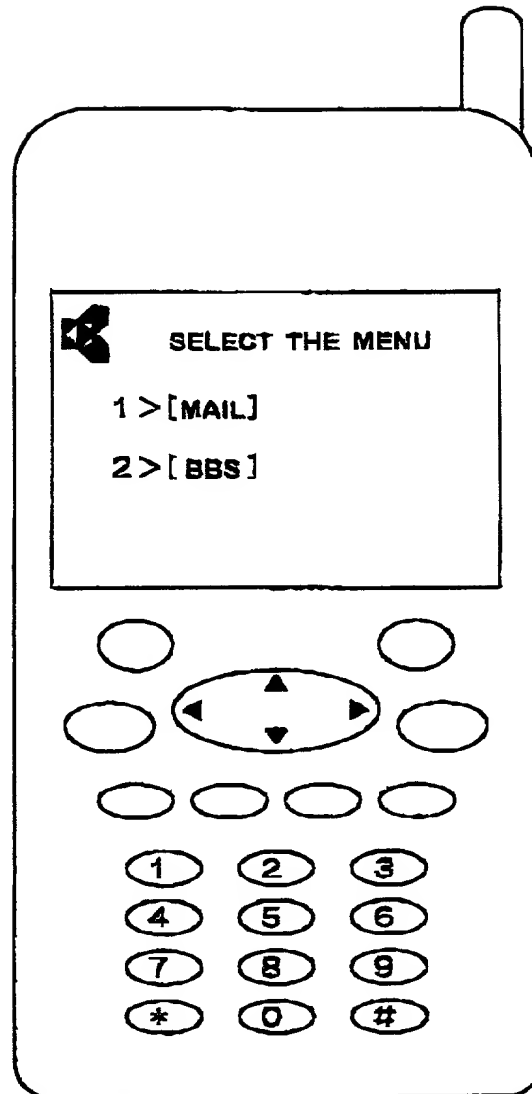
FIG.29

```
<HTML VERSION=3.0>  
<DISPLAY>  
  SELECT THE MENU <BR>  
    <IMG SRC=1COM.BMP><BR>  
    <A TASK=GO DEST=MAIL.KSP ACCESSKEY=1>MAIL </A><BR>  
    <A TASK=GO DEST=BBS.KSP ACCESSKEY=2>BBS </A><BR>  
</DISPLAY>  
</HTML>
```

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FIG.30



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120US

FIG.31

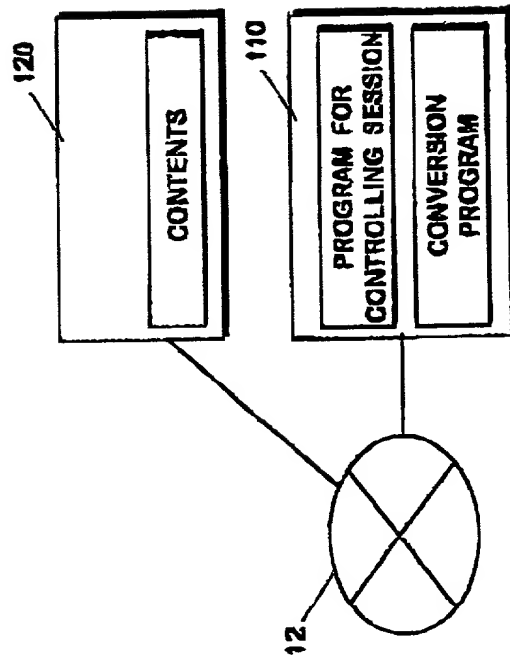


FIG.32

